

WHAT IS CLAIMED IS:

1 1. A mail processing machine, comprising:
2 a first holding location that is adapted to hold a stack of first pages, wherein a
3 card is coupled to each of the first pages, and wherein each first page includes an identifier;
4 a second holding location that is adapted to hold a stack of second pages, and
5 wherein each second page includes an identifier;
6 a first advancing mechanism that is adapted to separately advance each first
7 page from the stack;
8 a second advancing mechanism that is adapted to separately advance each
9 second page from the stack;
10 a first scanning device that is adapted to read the identifier on each first page
11 as the first page is advanced by the first advancing mechanism;
12 a second scanning device that is adapted to read the identifier on each second
13 page as the second page is advanced by the second advancing mechanism;
14 a controller that is configured to control the first and second advancing
15 mechanism to permit the first and second pages to be scanned by the first and second
16 scanners and to match the first pages with the second pages if the identifier on one of the
17 advanced first pages corresponds with the identifier on one of the advanced second pages.

1 2. A machine as in claim 1, further comprising a conveyor, wherein the
2 first advancing mechanism is configured to place one of the first pages onto the conveyor,
3 and wherein the second advancing mechanism is configured to place one of the second pages
4 onto the first page if the identifiers are corresponding.

1 3. A machine as in claim 2, further comprising a plurality of inserting
2 locations that are adapted to hold inserts, and a plurality of inserting mechanisms that are
3 adapted to place selective ones of the inserts onto the first and second pages as they pass
4 along the conveyor.

1 4. A machine as in claim 3, wherein the controller is configured to
2 operate the inserting mechanisms to place the inserts based on the identifiers on the first and
3 second pages.

1 5. A machine as in claim 3, further comprising a stuffing mechanism that
2 is adapted to place the first and the second pages along with any inserts into an envelope.

1 6. A machine as in claim 5, further comprising a postage station that is
2 adapted to place postage onto the envelope.

1 7. A machine as in claim 1 , wherein the first holding location is adapted
2 to hold the first pages when the first pages are pre-folded into three sections defined by two
3 fold lines.

1 8. A machine as in claim 1, wherein the second holding location is
2 adapted to hold the second pages when the second pages are flat or are pre-folded into three
3 sections defined by two fold lines.

1 9. A machine as in claim 1, wherein the first holding location is adapted
2 to hold the first pages in a vertical stack, and wherein the advancing mechanism is adapted to
3 advance a bottom one of the first pages.

1 10. A machine as in claim 1, wherein the second holding location is
2 adapted to hold the second pages in a vertical stack, and wherein the advancing mechanism is
3 adapted to advance a bottom one of the second pages.

1 11. A method for processing mail, the method comprising:
2 placing a stack of first pages into a first holding location, wherein a card is
3 coupled to each of the first pages, and wherein each first page includes an identifier;
4 placing a stack of second pages into a second holding location, wherein each
5 second page includes an identifier;
6 advancing one of the first pages from the stack using a first advancing
7 mechanism;
8 advancing one of the second pages from the stack using a second advancing
9 mechanism;
10 scanning the advanced first page with a first scanning device to read the
11 identifier on the first page;
12 scanning the advanced second page with a second scanning device to read the
13 identifier on the second page; and
14 determining with a controller is the identifiers on the advanced first and
15 second pages correspond; and
16 matching the advanced first and second pages if the identifier correspond.

- 1 12. A method as in claim 11, wherein the matching step comprising
2 placing the first and second sheets in a stack onto a conveyor.
- 1 13. A method as in claim 12, wherein the first advancing mechanism is
2 configured to place the advanced first page onto the conveyor, and wherein the second
3 advancing mechanism is configured to place the advanced second page onto the first page to
4 stack the first and second pages onto the conveyor.
- 1 14. A method as in claim 13, further comprising selectively placing inserts
2 from a plurality of inserting locations onto the first and second pages as they pass along the
3 conveyor.
- 1 15. A method as in claim 14, further comprising placing the inserts using
2 inserting mechanisms, and further comprising controlling operation of the inserting
3 mechanisms based on the identifiers on the first and second pages.
- 1 16. A method as in claim 14, further comprising placing the first and the
2 second pages along with any inserts into an envelope using a stuffing mechanism.
- 1 17. A method as in claim 16, further comprising placing postage onto the
2 envelope.
- 1 18. A method as in claim 11, wherein the first pages are pre-folded into
2 three sections defined by two fold lines when held in the first holding location.
- 1 19. A method as in claim 11, wherein the second pages are flat or are pre-
2 folded into three sections defined by two fold lines when held in the second holding location.
- 1 20. A method as in claim 11, wherein the first pages are held in a vertical
2 stack, and wherein the advanced first page is a bottom one of the first pages.
- 1 21. A method as in claim 11, wherein the second pages are held in a
2 vertical stack, and wherein the advanced second page is a bottom one of the second pages.
- 1 22. A sensing system, comprising:
2 a first arm having a first jaw;
3 a second arm having a second jaw, wherein the second jaw is pivotally

4 coupled to the first jaw to permit a sheet to be grasped between the jaws;
5 a distance sensing system disposed to sense the distance between the first and
6 second arms; and
7 a processor to determine if a single sheet is disposed between the first and
8 second jaws based on the distance measured by the distance sensing system.

1 23. A system as in claim 22, wherein the sensing system comprising a light
2 source that is configured to direct light onto the second arm and a light collector on the first
3 arm that is adapted to collect light reflected from the second arm.

1 24. A system as in claim 22, further comprising a calibration mechanism to
2 calibrate the processor once the sheet has been placed between the first and second jaws.

1 25. A system as in claim 24, further comprising an alarm coupled to the
2 processor to indicate if a single sheet has not been grasped.

1 26. A system as in claim 25, wherein the processor is configured to trigger
2 the alarm if a tolerance of greater than about 10% above a calibrated distance is measured.

1 27. A system as in claim 23, further comprising a conveyor, and wherein
2 the first and second jaws are configured to release the sheet onto the conveyor based on a
3 signal from the processor.

1 28. A system as in claim 22, further comprising inserting locations that are
2 adapted to hold sheets of inserts that are to be grasped by the first and second jaws.

1 29. A system as in claim 28, wherein the first arm is coupled to a rotatable
2 bar to rotate the first and second jaws toward and away from the sheets of inserts.

1 30. A method for sensing when a sheet has been grasped, the method
2 comprising:

3 providing a grasping mechanism that comprises a first arm having a first jaw,
4 and a second arm having a second jaw, wherein the second jaw is pivotally coupled to the
5 first jaw to permit a sheet to be grasped between the jaws;

6 separating the jaws and moving the grasping mechanism to position the jaws
7 to grasp a sheet;

8 moving the jaws toward each other to grasp the sheet;

9 measuring the distance between the two jaws by sensing the distance between
10 the first and second arms with a distance sensing system; and
11 determining with a processor whether a single sheet is disposed between the
12 first and second jaws based on the distance measured by the distance sensing system.

1 31. A method as in claim 30, wherein the sensing system comprising a
2 light source and a light collector on the first arm, and wherein the distance is measured by
3 directing light onto the second arm measuring the time required for the light to reflect back
4 onto the light collector.

1 32. A method as in claim 30, further comprising performing a calibration
2 by placing a sheet between the jaws and measuring the distance between the first and the
3 second arms.

1 33. A method as in claim 32, further comprising producing an alarm if a
2 single sheet has not been grasped.

1 34. A method as in claim 33, wherein the alarm is trigger if a tolerance of
2 greater than about 10% above the calibrated distance is measured.

1 35. A method as in claim 30, further comprising releasing the grasped
2 sheet onto a conveyor.

1 36. A method as in claim 30, further comprising rotating the grasping
2 mechanism toward an insert holding location that holds a stack of sheets to be individually
3 grasped.